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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PETER ETZOLD

Appeal 2009-002371
Application 10/531,516
Technology Center 2800

Before KENNETH W. HAIRSTON, MARC S. HOFF,
and CARL W. WHITEHEAD, JR., *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 to 18. We have jurisdiction under 35 U.S.C. § 6(b).

We will sustain the obviousness rejections.

Appellant's invention is concerned with a charger for charging a battery from a line voltage and a method of operating a line-supplied charger for a battery (claims 1 and 9; Fig. 1; Spec. 1:5-14). Appellant's disclosed and claimed invention is directed to a method and charger that cycles between a resting phase (R) and a refreshing phase (A), and separates components of the charger (*see* claim 1) or the charge transformer (*see* claim 11) from the line voltage during the resting phase (R).

Claim 1, reproduced below, is representative of the subject matter on appeal:

1. A method for operating a line-supplied charger (100) for a battery (200) in a maintaining mode for keeping the battery in a charged state, in which the battery (200) alternates cyclically between a resting phase (R) and a refreshing phase (A),

in which the battery (200), in the resting phase (R), from self-discharging of the battery (200), discharges from an upper threshold voltage (U_{OG}) to a lower threshold voltage (U_{UG}) which is lower than the upper threshold voltage (U_{OG}) but is preferably higher than the rated voltage of the battery (200); and

in which the battery (200), in the refreshing phase (A), is charged again from the lower (U_{UG}) to the upper threshold voltage (U_{OG}) via a charge transformer (120) of the charger (100);

wherein individual components of the charger (100) comprising at least the charge transformer (12[0][sic]), are separated from the line voltage (U_N) during the resting phase (R).

The Examiner relies upon the following as evidence of unpatentability:

Usui	US 5,345,094	Sep. 6, 1994
Faulk	US 5,459,652	Oct. 17, 1995
Keidl	US 5,617,007	Apr. 1, 1997
Shirai	US 6,434,025 B2	Aug. 13, 2002
Wu	US 2002/0109485 A1	Aug. 15, 2002

The following obviousness rejections are before us for review:

- (i) Claims 1 to 12, 16, and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Keidl and Wu.
- (ii) Claims 13 and 14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Keidl and Wu, further in view of Faulk.
- (iii) Claim 15 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Keidl and Wu, and Faulk, further in view of Shirai.
- (iv) Claim 18 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Keidl and Wu, and Faulk, further in view of Usui.

In all of the obviousness rejections (*see* rejections (i) and (iv) *supra*), the Examiner relies upon Keidl (*see* Figs. 1, 2E, 3; col. 2, l. 60 to col. 3, l. 40) as disclosing the features set forth in independent claims 1 and 9 of a method of operating a line-supplied charger in, and a battery charger operating in, a maintaining mode for keeping a battery in a charged state

with a rectifier and charge transformer (36) that alternates between a float charging phase (i.e., resting phase) and a current IX period (i.e., refreshing phase) under the control of a microprocessor 12 and switching device 32 (Ans. 3-5, 14-17). The Examiner determines that disconnecting a charge transformer from an input/AC source is well known in the art, and relies upon Wu (Fig. 2; Abs.; ¶¶ [0025], [0032]) as disclosing a switching device SW1 that operates to disconnect or separate a charge transformer 1 from a line voltage or AC power source “AC” as set forth in claims 1 and 9 (Ans. 6, 17-21). The Examiner determines that using a switch to separate the charge transformer from the AC line, as taught by Wu, in the charging method of Keidl would have been obvious in order to charge a battery (Ans. 6).

With regard to the obviousness rejections of claims 1 and 9 applying Keidl and Wu (*see* rejections (i) – (iv) *supra*), Appellant disputes the individual teachings of Keidl with respect to whether or not Keidl (i) discloses or suggests a “charge-maintaining mode” where the “*charging transformer is completely turned off*” (Br. 5-6), (ii) has anything to do with a charge-maintaining mode that operates using ““saw tooth maintaining charging”” (Br. 6-7), (iii) anticipates the subject matter of claims 1 and 9 since the transformer 36 of Keidl consumes energy and is not *decoupled* from the charger 10 (Br. 7-8), and (iv) separates and connects the charge transformer from the battery during a resting phase of a *charge-maintaining mode* (Br. 8).

Appellant further disputes the teachings, disclosure, and suggestions of Wu with respect to whether or not Wu discloses (i) a refreshing phase (Br. 9-11), (ii) separating a charge transformer during a refreshing phase of a

maintaining mode for keeping a battery in a charged state (Br. 9), and (iii) a refreshing phase that monitors battery voltage and maintains a battery voltage at a level above the rated voltage of the battery (Br. 9-10).

With regard to the obviousness rejections applying Keidl and Wu combined with (i) Faulk (as to claims 13 and 14), (ii) Faulk and Shirai (as to claim 15), and (iii) Usui (as to claim 18) under § 103, Appellant presents only nominal arguments and contends (Br. 12) that these dependent claims are patentable for the same reasons as presented for independent claims 1 and 9.

Claims 1 to 8 recite a method of operating a line-supplied charger where components of the charger such as the charge transformer are separated from the line voltage during the resting phase, and claims 9 to 18 recite a charger for charging a battery from a line voltage including a charge transformer, a rectifier, a control unit, and a switching device for separating the charge transformer during the resting phase from the line voltage (*see* claims 1 and 9). The obviousness rejection of claims 2 to 8, 10 to 12, 16, and 17 (*see* rejection (i) listed *supra*) stands or falls with claims 1 and 9 because Appellant argued these claims with claims 1 and 9. The obviousness rejections of claims 13 to 15 and 18 also stand or fall with that of claims 1 and 9 because (i) Appellant does not argue that Faulk, Shirai, or Usui fail to teach the limitations recited in claims 1 and 9 of separating the line voltage from the charge transformer during a resting phase, and (ii) Appellant presents only nominal arguments as to claims 13 to 15 and 18 (*see* Br. 12).

ISSUE

Based on Appellant's arguments, the issue is: Do Keidl and Wu disclose or suggest separating a line voltage from a charge transformer during a resting phase of a battery charger or method of operating a line-supplied charger as recited in claims 1 and 9?

FINDINGS OF FACT

1. Keidl describes a method for operating line-supplied charger 10 by separating a line voltage V_{in} from a charge transformer 36 during a resting phase of the battery charger 10 using a FET switch 32 to control current flow to the battery 14 by switching FET 32 on and off (Figs. 1, 2E, 3; col. 3, ll. 1-39). Keidl describes and shows (*see* Fig. 3) alternating cyclically between (i) a zero current period of a float charging phase (i.e., resting phase) in which the battery 14 is discharged from an upper threshold voltage $V_C*1.01$ to a lower threshold voltage $V_C*0.99$ (*see generally* col. 4, ll. 38-56 and col. 5, ll. 14-17), and (ii) a current I_X period of the float charging phase (i.e., refreshing phase) in which the battery 14 is charged from a lower threshold voltage $V_C*0.99$ to an upper threshold voltage $V_C*1.01$ (*see generally* col. 3, l. 64 to col. 4, l. 37 and col. 5, ll. 14-17).
2. Wu describes a battery charging method and charger having a switch SW1 for separating a line voltage AC from a switch power supply circuit (i.e., charge transformer) 1, such that current is transferred to the battery 6 during charging and not transferred to the battery 6 during a non-conductive time period (Fig. 2; ¶¶ [0025], [0032]).

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). The Examiner's articulated reasoning in the rejection must possess a rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

The test for obviousness is what the combined teachings of the references would have suggested to the artisan. Accordingly, one can not show nonobviousness by attacking references individually where the rejection is based on a combination of references. *In re Keller*, 642 F.2d 413, 426 (CCPA 1981).

ANALYSIS

Turning now to the obviousness rejection of claims 1 to 12, 16, and 17 over Keidl and Wu, we agree with the Examiner's findings of fact and conclusions of obviousness with respect to claims 1 and 9 (Ans. 3-13), and adopt them as our own, along with some amplification of the Examiner's explanation of the teachings of Keidl (*see* FF 1) and Wu (*see* FF 2). *See Fine*, 837 F.2d at 1073; *Kahn*, 441 F.3d at 988. The Examiner has established a factual basis to support the legal conclusion of obviousness (*Fine*, 837 F.2d at 1073), and the Examiner's articulated reasoning in the rejection possesses a rational underpinning supporting the legal conclusion of obviousness. *Kahn*, 441 F.3d at 988.

While the specification can be examined for proper context of a claim term, limitations from the specification will not be imported into the claims. *CollegeNet, Inc. v. ApplyYourself, Inc.*, 418 F.3d 1225, 1231 (Fed. Cir. 2005). Appellant asserts that Keidl differs from the claimed charging method and charger. However, such asserted differences are not set forth in the claims. *See CollegeNet, Inc. v. ApplyYourself, Inc.*, 418 F.3d at 1231. We are not persuaded of error on the part of the Examiner by Appellant's arguments that Keidl does not disclose or suggest (i) a "charge-maintaining mode" where the "*charging transformer is completely turned off*" (Br. 5-6), (ii) a charge-maintaining mode that operates using "'saw tooth maintaining charging'" (Br. 6-7), (iii) the subject matter of claims 1 and 9 since the transformer 36 of Keidl consumes energy and is not *decoupled* from the charger 10 (Br. 7-8), and (iv) "separating and connecting the charge transformer from the battery" during a resting phase of a *charge-maintaining mode* (Br. 8). These arguments are not commensurate in scope with the language of claims 1 and 9 which do not (i) contain the phrases "charge-maintaining mode," "saw tooth maintaining charging," and "decoupled," and (ii) recite separating the charge transformer from the *battery* (but instead recite separating the charge transformer from the *line voltage*).

The test for obviousness is what the *combined* teachings of the references (combined in the manner set forth by the Examiner in the prima facie case) would have suggested to the artisan. The combination set forth by the Examiner relies upon Keidl as teaching a battery charging method and charger for keeping a battery in a charged state, where the battery alternates cyclically between a resting phase and a refreshing phase, and Wu

as teaching a switch SW1 for separating a charge transformer 1 from an AC power line or supply (*see* Ans. 3-9). In the obviousness rejection, the Examiner has not relied upon Wu for a refreshing phase, but upon Keidl. One cannot show nonobviousness by attacking references individually where the rejection is based on a combination of references. *Keller*, 642 F.2d at 426. Accordingly, Appellant's contentions that Wu fails to disclose or suggest (i) a *refreshing phase* (Br. 9-11), (ii) separating a charge transformer during a *refreshing phase* of a maintaining mode for keeping a battery in a charged state (Br. 9), and (iii) a *refreshing phase* that monitors battery voltage and maintains a battery voltage at a level above the rated voltage of the battery (Br. 9-10) are unpersuasive in view of the Examiner's reliance on *Keidl* as disclosing the refreshing phase.

Based on our findings with respect to Keidl (*see* FF 1) and Wu (*see* FF 2), we agree with the Examiner that the combination of Keidl and Wu meets all of the method step limitations set forth in claim 1, and all of the charger limitations set forth in claim 9. Appellant has not demonstrated that the Examiner erred in combining Keidl and Wu, or that the obviousness rejection is otherwise in error.

In view of the foregoing, we will sustain the obviousness rejection of independent claims 1 and 9 based upon the teachings of Keidl and Wu. The same holds true for dependent claims 2 to 8, 10 to 12, 16, and 17 which were argued with claims 1 and 9. The obviousness rejections of claims 13 to 15 and 18 are sustained because Appellant has not presented any substantial patentability arguments for these claims apart from the arguments presented for claims 1 and 9.

CONCLUSION OF LAW

Keidl and Wu taken in combination disclose or suggest separating a line voltage from a charge transformer during a resting phase of a battery charger or method of operating a line-supplied charger as recited in claims 1 and 9.

ORDER

The decision of the Examiner rejecting claims 1 to 18 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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